Amendments to the Drawings:

The attached sheets of drawings include changes to FIGS. 1-4 and 8. The changes reflect the addition of descriptive legends.

Attachment: Replacement Sheets

REMARKS

The above amendments are made in response to the Office action of September 28, 2006. The Examiner's reconsideration is respectfully requested in view of the above amendment and the following remarks. No new matter has been added, amendments have been made for purposes of clarifying the claimed invention.

Claims 1-21 have been cancelled and new claims 22-25 have been added. Support for the new claims can be found at least in FIGS. 1, 2 and 8 and pages 7-11 and 15-18 of the application as filed. Claims 22-25 are pending in the present application.

Drawings

The drawings were objected to under 37 CFR 1.84(o) as failing to include descriptive legends. Applicants have included replacement drawing as described above.

The Applicants have included new drawings, namely FIGS. 1-4 and 8 including descriptive legends in order to more clearly illustrate the features of the invention.

No new matter has been introduced by the new drawings as support is found throughout the specification, the figures, and the claims as originally filed.

Consideration and entry of the Replacement Drawing Sheets for FIGS. 1-4 and 8 are respectfully requested. Applicants respectfully request that in light of the new drawings the objections to the drawings be withdrawn.

Claim Rejections Under 35 U.S.C. § 112

Claims 11 and 14 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the enablement requirement. The Examiner specifically states that the limitation *wherein the wavelength tunable laser is obtained by branching the semiconductor laser beams outputted form the optical channel unit to the second optical coupler, amplifying the branched semiconductor laser beams and demultiplexing the amplified semiconductor laser beams*, was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. Claims 11 and 14 have been cancelled, rendering any rejections thereto moot.

Claims 10 and 13 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically the Examiner states that the limitation "second optical coupler" is unclear without the recitation of a first optical coupler. Claims 10 and 13 have been cancelled, rendering any rejections thereto moot.

Rejections Under 35 U.S.C. § 103

In order for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all of the elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143.

Claims 1, 4-6, 10-11, 13-14 and 16-21

Claims 1, 4-6, 10-11, 13-14 and 16-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mells (U.S. Patent No. 6,853,456, hereinafter "Mells") in view of Takei (U.S. Patent Publication No. 2003/0030876, hereinafter "Takei"). The Examiner states that Mells discloses all of the elements of claims 1, 4-6, 10-11, 13-14 and 16-21 except, *a controller for controlling the frequencies of the light sources*, which the Examiner further states is disclosed primarily in FIG. 1 of Takei. Claims 1, 4-6, 10-11, 13-14 and 16-21 have been cancelled, rendering any rejections thereto moot.

Mells discloses a method and apparatus for detecting a frequency of an optical signal within a communications channel having a plurality of optical carriers separated by a predetermined frequency spacing. (See Abstract). As admitted by the Examiner on page 3 of the present Office action, Mells does not disclose a controller for receiving the

output signal from the microwave spectrum analyzing unit and controlling the center frequencies of the optical channels of the optical channel unit. The Examiner states that such a limitation is disclosed in Takei.

Takei discloses an optical transmitter, an optical receiver and an optical wavelength multiplexing system wherein output lights of a plurality of signal laser modules and a stabilized light source having a wavelength stableness higher than them are coupled with one wave of an adjacent wavelength. (See Abstract).

Claims 2 and 7

Claims 2 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mells in view of Takei and further in view of Tanaka (U.S. Patent No. 6,556,328, hereinafter "Tanaka"). The Examiner states that Mells in view of Takei discloses all of the elements of claims 2 and 7 except, *an optical switch for selecting channels for tuning*, which the Examiner further states is disclosed primarily in FIG. 1 of Tanaka. Claims 2 and 7 have been cancelled, rendering any rejections thereto moot.

Tanaka discloses improved frequency stabilizing equipment for a light source for optical communication wherein light from the light source is selected by a light switch. (See Abstract).

Claims 3 and 8

Claims 3 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mells in view of Takei and Tanaka and further in view of Lee (PCT WO 01/73980, hereinafter "Lee"). The Examiner states that Mells in view of Takei and Tanaka discloses all of the elements of claims 3 and 8 except, *a polarization scrambler*, which the Examiner further states is disclosed primarily in page 5, lines 2-8 of Lee. Claims 3 and 8 have been cancelled, rendering any rejections thereto moot.

Lee discloses method of controlling the channel spacing of dense-wavelength-division-multiplexed systems using the beat signal obtained by detecting two optical channel groups simultaneously. (See Abstract).

Claim 9

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mells in view of Takei and further in view of Imajuku et al. (U.S. Patent No. 6,909,732, hereinafter "Imajuku"). The Examiner states that Mells in view of Takei discloses all of the elements of claim 9 except, *a tunable optical filter*, which the Examiner further states is disclosed primarily in column 9, lines 1-5 of Imajuku. Claim 9 has been cancelled, rendering any rejections thereto moot.

Imajuku discloses an optical wavelength control method and apparatus capable of controlling an optical wavelength of a light source with a central wavelength which is uncertain and unstable at nanometer order. (See Abstract).

Claims 12 and 15

Claims 12 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mells in view of Takei and further in view of Lee. The Examiner states that Mells in view of Takei discloses all of the elements of claims 12 and 15 except, *a polarization scrambler*, which the Examiner further states is disclosed primarily in page 5, lines 2-8 of Lee. Claims 12 and 15 have been cancelled, rendering any rejections thereto moot.

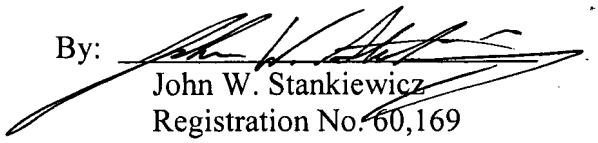
However, it should be noted that none of the above cited references alone or in combination disclose, teach or suggest an optical spectrum controller for receiving outputs of the optical channel unit and the controller to change optical spectra of the semiconductor laser beams outputted from the optical channel unit, wherein the microwave spectrum analyzing unit includes a microwave spectrum analysis circuit for providing the spectral information of the beat frequency signals to the controller so that the controller controls the center frequencies of the optical channels of the optical channel unit.

Conclusion

In light of the above remarks, the present application including claims 21-25 is believed to be in condition for allowance.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections. If there are any charges due with respect to this response, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

By: 

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